This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method for the enzyme-mediated, site-specific, in-vivo localization of water-insoluble molecules within a solid tumor, which comprises:

[the administration of] administering a water-soluble prodrug molecule to an animal[;],

wherein said prodrug [being] is a substrate to said enzyme and is hydrolyzed by said enzyme molecules present within the tumor, and wherein said hydrolysis [forming] forms a water-insoluble drug precipitate [molecule, wherein said precipitate] which is trapped within the extracellular space of the solid tumor.

2. (original) The method as recited in claim 1, wherein the enzyme is produced naturally by tumor cells.

3. (original) The method as recited in claim 2, wherein the enzyme is produced at concentrations higher than that in normal tissues.

Claim 4 is withdrawn from consideration.

5. (previously presented) The method as recited in claim 1, wherein the enzyme is selected from the group consisting of a phosphatase, a cellulase, a deaminase, a DNAse, an endonuclease, an exonuclease, a glucosidase, a glutaminase, a glucoronidase, an iduronidase, a nitrophenylphosphatase, a peptidase, a protease, an RNAse, and a sulfatase.

6. (original) The method as recited in claim 1, wherein the enzyme is localized specifically on the surfaces of tumor cells, following the administration of said enzyme chemically conjugated to a targeting moiety.

7. (original) The method as recited in claim 6, wherein the targeting moiety is a ligand that binds specifically to a tumor-specific receptor.

8. (original) The method as recited in claim 7, wherein the ligand is selected from the group consisting of an antibody, a peptide, and a hormone.

9. (original) The method as recited in claim 8, wherein the receptor is a tumor-specific antigen.

10. (original) The method as recited in claim 8, wherein the receptor is specific to the peptide.

11. (original) The method as recited in claim 8, wherein the receptor is specific to the hormone.

12. (original) The method as recited in claim 6, wherein the conjugate is injected intravenously, intra-arterially, subcutaneously, into the lymphatic circulation, intraperitoneally, intrathecally, intratumorally, or intravesically.

13. (original) The method as recited in claim 1, wherein the water-soluble prodrug is injected intravenously, intra-arterially, subcutaneously, into the lymphatic circulation, intraperitoneally, intrathecally, intratumorally, intravesically, or is given orally.

14. (currently amended) The method as recited in claim 1, wherein the prodrug substrate is represented by the following formula:

R–D–(O–BLOCK)

wherein BLOCK is a blocking group that can be cleaved from the remainder of the substrate by action of an enzyme, resulting in a water-insoluble drug molecule represented by the following formula:

R–D–O–H

wherein D contains a minimum of 2 linked aromatic rings, and R[^{1}] is a radioactive atom,

a radiolabeled moiety with one or more radioactive atom(s), a boron atom, or a moiety labeled with one or more boron atoms.

15. (original) The method as recited in claim 14, wherein the radiolabel is selected from the group consisting of a gamma emitting radionuclide suitable for gamma camera imaging, a positron emitting radionuclide suitable for positron emission tomography, and an alpha or a beta particle emitting radionuclide suitable for therapy.

16. (original) The method as recited in claim 15, wherein the alpha particle emitting radionuclide is astatine-211, bismuth-212, or bismuth-213.

17. (original) The method as recited in claim 15, wherein the beta particle emitting radionuclide emits beta particles whose energies are greater than 1 keV.

18. (original) The method as recited in claim 15, wherein the beta particle emitting radionuclide is iodine-131, copper-67, samarium-153, gold-198, palladium-109, rhenium-186, rhenium-188, dysprosium-165, strontium-89, phosphorous-32, phosphorous-33, or yttrium-90.

19. (original) The method as recited in claim 14, wherein the boron atom is suitable for neutron activation.

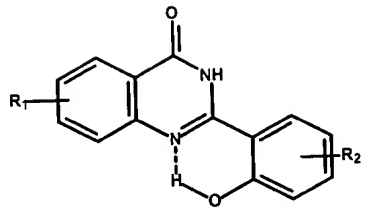
20. (original) The method as recited in claim 14, wherein the BLOCK is selected from the group consisting of:

a monovalent blocking group derivable by removal of one hydroxyl from a phosphoric acid group, a sulfuric acid group, or a biologically compatible salt thereof;

a monovalent blocking group derivable by removal of a hydroxyl from an alcohol or an aliphatic carboxyl, an aromatic carboxyl, an amino acid carboxyl, or a peptide carboxyl; and

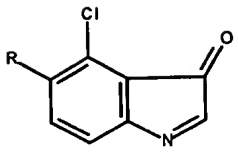
a monovalent glycoside derived by the removal of the anomeric hydroxyl group from a mono- or polysaccharide.

21. (previously presented) The method of claim 14, wherein R-D comprises quinazolinone dye having the formula:



wherein R comprises R_1 and/or R_2 and R_1 and R_2 comprise a radioactive atom, a radiolabeled moiety with one or more radioactive atom(s), a boron atom, or a moiety labeled with one or more boron atoms.

22. (withdrawn) The method of claim 14, wherein R-D comprises a the following compound resulting from the enzymatic hydrolysis of 5-bromo-4-chloro-3-indolyl β –D-galactose by β –D-galactosidase:


Cl
O
R
N